0027841	DATA SHEET	LAPP
valid from: 20.01.2025	UNITRONIC® FD	

Application

UNITRONIC® FD is a high flexible data cable with an outer sheath from PVC. The cable is designed for special use in power chains, automatic manipulators and in permanently moved machine parts.

Design

Design	Design based on standard VDE 0812
Conductor	extra fine wire strands of bare copper acc. to IEC 60228 resp. EN IEC 60228, class 6
Insulation	PVC compound TI52 acc. to EN 50290-2-21
Core identification code	acc. to DIN 47100
Cable assembly	cores stranded in layers, optionally with fillers wrapping with fleece on the outer layer
Outer sheath	PVC compound TM52 acc. to EN 50290-2-22 colour: grey (similar RAL 7001)

Electrical properties at 20 °C

Conductor resistance	0.14 mm²: max. 138.0 Ω/km 0.25 mm²: max. 79.0 Ω/km 0.34 mm²: max. 57.0 Ω/km 0.5 mm²: class 5 0.75 mm²: class 5 1 mm²: class 5
Specific volume resistivity	> 20 G Ω x cm
Mutual capacitance	C/C: approx. 120 nF/km (at 800 Hz)
Inductance	approx. 0.65 mH/km
Maximum operating voltage	0.14 mm²: 350 V ≥ 0.25 mm²: 500 V (not intended to be used in conjunction with low impedance sources, such as power grids)
Test voltage	C/C: 1500 V

Mechanical and thermal properties

Minimum bending radius	flexing: 5 x outer diameter fixed installation: 3 x outer diameter
Temperature range	flexing: -5 °C up to +70 °C fixed installation: -40 °C up to +80 °C
Bending cycles and power chain operation parameters	bending radius: ≥ 5 x outer diameter travel distance: ≤ 5 m Acceleration: ≤ 3 m/s² Velocity: ≤ 3 m/s Cycles: ≥ 3.000.000 Please comply with assembly guideline Appendix T3
Flammability	flame retardant acc. to IEC 60332-1-2 resp. EN 60332-1-2
General requirements	These cables are conform to EU-Directive 2011/65/EU (RoHS, Restriction of the use of certain hazardous substances).
Environmental information	These cables meet the substance-specific requirements of the EU Directive 2011/65/EU (RoHS).